

**THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

NETSOCKET, INC.

v.

CISCO SYSTEMS, INC.

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CASE NO. 2:22-CV-172-JRG

CLAIM CONSTRUCTION ORDER

On May 7, 2024, the Court held a hearing to determine the proper construction of disputed terms in United States Patents Nos. 7,720,966 and 7,734,796. Before the Court is the Opening Claim Construction Brief (Dkt. No. 132) filed by Plaintiff NetSocket, Inc. Also before the Court are the Responsive Claim Construction Brief (Dkt. No. 137) filed by Defendant Cisco Systems, Inc., Plaintiff's reply (Dkt. No. 138), the parties' January 25, 2024 Joint Claim Construction and Prehearing Statement Pursuant to Local Patent Rule 4-3 (Dkt. No. 113), and the parties' April 25, 2024 Joint Claim Construction Chart Pursuant to Local Patent Rule 4-5(d) (Dkt. No. 140).

Having reviewed the arguments made by the parties at the hearing and in their claim construction briefing, having considered the intrinsic evidence, and having made subsidiary factual findings about the extrinsic evidence, the Court hereby issues this Claim Construction Order. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc); *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

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I. BACKGROUND

Plaintiff alleges infringement of United States Patents Nos. 7,190,698 (“the ’698 Patent”), 7,720,966 (“the ’966 Patent”), and 7,734,796 (“the ’796 Patent”). Dkt. No. 132, Exs. A–B. In particular, Plaintiff asserts Claim 1 of the ’698 Patent, Claims 1 and 17 of the ’966 Patent, and Claims 15, 16, 19, 22, and 41 of the ’796 Patent. Dkt. No. 140 at 1. The parties have submitted claim construction disputes as to only the ’966 Patent and the ’796 Patent.

The '966 Patent, titled “Arrangements and Method for Hierarchical Resource Management in a Layered Network Architecture,” issued on May 18, 2010, and bears a filing date of November 14, 2003. The Abstract of the '966 Patent states:

A data network, method and a computer program product, wherein the data network is implemented by a first network level (104) having a first addressing scheme and at least a second network level (108) having a second addressing scheme. Each network level provides connectivity over at least one network domain. A first group of Network Resource Managers, NRMs, (b-d)[] is arranged to control the resources of the first network level and a second group of NRMs (e-g) is arranged to control the resources of the second network level. The NRMs of the first group (b-d) and second group (e-g) exchange resource requests by using the first addressing scheme and the NRMs (e-g) of the second group perform an address mapping between the first and second addressing schemes.

The '796 Patent, titled “Method and Arrangement for Reserving Resources to Obtain a Predetermined Quality of Service in an IP Network,” issued on June 8, 2010, and bears a filing date of August 22, 2002. The Abstract of the '796 Patent states:

A method and an arrangement in an IP network provides a scalable solution for reserving resources to obtain a predictable QoS end-to-end in a heterogeneous IP network. The object is achieved by categorizing the destination domain with a domain property label that for example informs about the availability of resources in the destination domain and about how to obtain QoS to the endpoint in this particular domain category.

Shortly before the start of the May 7, 2024 hearing, the Court provided the parties with preliminary constructions with the aim of focusing the parties' arguments and facilitating discussion. Those preliminary constructions are noted below within the discussion for each term.

II. LEGAL PRINCIPLES

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips*, 415 F.3d at 1312 (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). Claim construction is clearly an issue of law for the court to decide. *Markman v. Westview*

Instruments, Inc., 52 F.3d 967, 970–71 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). “In some cases, however, the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.” *Teva*, 135 S. Ct. at 841 (citation omitted). “In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the ‘evidentiary underpinnings’ of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.” *Id.* (citing 517 U.S. 370).

To determine the meaning of the claims, courts start by considering the intrinsic evidence. *See Phillips*, 415 F.3d at 1313; *see also C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312–13; *accord Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term’s context in the asserted claim can be very instructive. *Id.* Other asserted or unasserted claims can aid in determining the claim’s meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* at 1315 (quoting *Markman*, 52 F.3d at 979). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); accord *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor’s lexicography governs. *Id.* The specification may also resolve the meaning of ambiguous claim terms “where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone.” *Teleflex*, 299 F.3d at 1325. But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); accord *Phillips*, 415 F.3d at 1323.

The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc. v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) (“As in the case of the specification, a patent applicant may define a term in prosecuting a patent.”). “[T]he prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance.” *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985).

Although extrinsic evidence can be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (citations and internal quotation marks omitted). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.*

The Supreme Court of the United States has “read [35 U.S.C.] § 112, ¶ 2 to require that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). “A determination of claim indefiniteness is a legal conclusion that is drawn from the court’s performance of its duty as the construer of patent claims.” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) (citations and internal quotation marks omitted), *abrogated on other grounds by Nautilus*, 134 S. Ct. 2120. “Indefiniteness must be proven by clear and convincing evidence.” *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017).

III. AGREED TERMS

The parties reached agreement on constructions as stated in their January 25, 2024 Joint Claim Construction and Prehearing Statement Pursuant to Local Rule 4-3 (Dkt. No. 113 at 1–2),

their briefing (Dkt. No. 137 at 4), and their April 25, 2024 Joint Claim Construction Chart Pursuant to Local Patent Rule 4-5(d) (Dkt. No. 140). Those agreements are set forth in Appendix A to the present Claim Construction Order.

IV. DISPUTED TERMS

In their claim construction briefing, the parties organize the disputed terms differently. Rather than attempt to divine an ideal ordering, the Court adopts Plaintiff's ordering. Also, because the parties label the terms with different numbering, the Court sets forth the disputed terms with its own letter designations.

Further, during the course of briefing, several terms have been withdrawn from these claim construction proceedings either by agreement of the parties or because Plaintiff no longer asserts any claim in which those terms appear. In particular, the following terms are no longer at issue: "network domain"; "means for sending IP packets requiring a predetermined QoS to the destination terminal"; and "means for requesting from the second NRM a resource sufficient for the transmission of the IP packets to be able to fulfill said QoS." Dkt. No. 145 at 1; *see generally* Dkt. No. 145. Also, the term "means for receiving a call from a requesting device and extending resource reservations from the NRM unit to a particular endpoint" is addressed separately in Plaintiff's opening brief, but the remainder of the briefing, as well as the parties' April 25, 2024 Joint Claim Construction Chart, address this term only as part of the larger term "means for performing an appropriate action comprises means for receiving a call from a requesting device and extending resource reservations from the NRM unit to a particular endpoint," which is addressed below.

Finally, in the parties' January 25, 2024 Joint Claim Construction and Prehearing Statement, Plaintiff identified purported deficiencies in Defendant's disclosure of claim

construction positions and extrinsic evidence (*see* Dkt. No. 113 at 3–4), but Plaintiff has not moved to strike or otherwise demonstrated that any relief is warranted.

The Court now turns to the disputed terms:

A. “network level”

<p align="center">“network level” (’966 Patent, Claims 1, 17)</p>	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
<p>Plain and Ordinary Meaning (not indefinite)</p> <p>Alternatively: “a layer within a data network that has its own addressing scheme and is responsible for specific functions related to resource management”</p>	<p>Plain and Ordinary Meaning, where the Plain and Ordinary Meaning refers to “network protocol layers and overlay networks.”</p>

Dkt. No. 132 at 4; Dkt. No. 137 at 4; Dkt. No. 138 at 2 & 3.

Shortly before the start of the May 7, 2024 hearing, the Court provided the parties with the following preliminary construction: “Plain meaning.”

(1) The Parties’ Positions

Plaintiff argues that “[t]he term ‘network level’ is contextualized in the ’966 patent as a layer within a data network that has its own addressing scheme and is responsible for specific functions related to resource management.” Dkt. No. 132 at 4 (citing ’966 Patent at 4:22–24, 5:49–6:3, 6:10–13 & 10:57–65; citing Ex. C, Jan. 25, 2024 Congdon Decl. at pp. 10–12). Plaintiff also argues that “[g]iven the technical background of POSITAs [(persons of ordinary skill in the art)] in the field and the descriptions in the specification . . . , the term ‘network level’ is a well-understood concept in network engineering.” *Id.* (citing Ex. C, Jan. 25, 2024 Congdon Decl. at p. 11).

Defendant responds that Defendant “requests that the Court construe this term under its plain and ordinary meaning, which refers to ‘network protocol layers and overlay networks.’” Dkt. No. 137 at 4 (quoting Dkt. No. 132 at 6) (citations omitted).

Plaintiff replies that “Cisco’s new construction of a *singular* ‘network level’ as referring to *multiple* ‘network protocol layers’ and overlay networks’ is not only unsupported by the words of the claims, any analysis or any expert opinion, it is contradicted by Cisco’s own expert.” Dkt. No. 138 at 3. Plaintiff urges that “[t]o the extent the Court is inclined to adopt any specific plain and ordinary meaning, NetSocket’s articulation of that meaning (which Cisco has not argued against), is the only construction supported by either the intrinsic evidence or any expert opinion and should be adopted, *i.e.* ‘a layer within a data network that has its own addressing scheme and is responsible for specific functions related to resource management.’” *Id.* (citation omitted).

(2) Analysis

Claim 1 of the ’966 Patent recites (emphasis added):

1. A method in a data network implemented by a first *network level* having a first addressing scheme and at least a second *network level* having a second addressing scheme, each *network level* providing connectivity over at least one network domain, the method comprising the steps of:

controlling resources of the first *network level* by a first group of Network Resource Managers (NRMs);

controlling resources of the second *network level* by a second group of NRMs, wherein the first group and the second group of NRMs comprise means for communicating on a common *network level*;

exchanging resource requests between the NRMs of the first and second groups using the first addressing scheme, the NRMs of the first group and the second group admitting new resource requests based at least in part on a total amount of available resources, an amount of resources currently reserved by previous reservations, and an amount of resources requested in the new resource requests; and

performing an address mapping between the first and second addressing schemes so that a set of resources that is used by a reservation in the second group, controlled and known by the second group, is aggregated into a single resource in the first group of NRMs.

The claim thus already on its face describes each recited “network level,” such as having an “addressing scheme” and “providing connectivity over at least one network domain.”

The Abstract of the ’966 Patent is consistent with this understanding, stating that “[e]ach network level provides connectivity over at least one network domain,” and the specification of the ’966 Patent discloses:

[T]he object of the present invention is to provide a general resource management extending different protocol layers.

* * *

The data network according to the present invention illustrated in FIG. 1 is implemented by a *first network level 104* having a *first addressing scheme* and at least a *second network level 108* having a *second addressing scheme*.

* * *

The solution according to the present invention solves the above stated problems by providing a uniform service management for hierarchies of providers and customers i.e., network operators, overlay service providers, VPNs, enterprises by having NRMs at all *levels* using one single addressing scheme, e.g. the IP address. Thus, the NRMs provide a uniform service interface towards applications and may offer resource management with uniform addressing at all protocol *levels*, e.g. the IP level and the link level.

’966 Patent at 4:22–24, 6:10–13 & 10:57–65 (emphasis added); *see id.* at 5:49–6:3; *see also id.* at 6:27–61 (“Two network levels i.e. a first and a second level may also be implemented by using the same protocol layer e.g. IP.”); *id.* at 5:23–26, 6:10–13 & Fig. 1 (illustrating “first network level 104” and “second network level 108”).

Defendants’ proposal of referring to “network protocol layers and overlay networks,” although supported to some extent by the specification (’966 Patent at 10:57–65 (quoted above)), would be a limitation not compelled by any lexicography or disclaimer or other evidence. Instead, the patentee used “network level” in a broad, generic manner as a reference point for interrelating

various claim limitations, such as in above-reproduced Claim 1 of the '966 Patent (the only other asserted claim in the '966 Patent is Claim 17, which depends from Claim 1).

The Court therefore hereby expressly rejects Defendant's proposed construction, and no further construction is necessary. *See U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) ("Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement. It is not an obligatory exercise in redundancy."); *see also O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co., Ltd.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008); *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 2010) ("Unlike *O2 Micro*, where the court failed to resolve the parties' quarrel, the district court rejected Defendants' construction."); *ActiveVideo Networks, Inc. v. Verizon Commc'ns, Inc.*, 694 F.3d 1312, 1326 (Fed. Cir. 2012); *Summit 6, LLC v. Samsung Elecs. Co., Ltd.*, 802 F.3d 1283, 1291 (Fed. Cir. 2015); *Bayer Healthcare LLC v. Baxalta Inc.*, 989 F.3d 964, 977–79 (Fed. Cir. 2021).

The Court accordingly hereby construes **"network level"** to have its **plain meaning**.

B. "group of Network Resource Managers"

"group of Network Resource Managers" ('966 Patent, Claim 1)	
Plaintiff's Proposed Construction	Defendant's Proposed Construction
Plain and Ordinary Meaning; Not subject to 35 U.S.C. § 112 ¶ 6; (not indefinite)	Subject to 35 U.S.C. 112 ¶ 6 Function: "the steps of claim 1" Structure: none (indefinite)

Dkt. No. 132 at 6; Dkt. No. 137 at 5; Dkt. No. 140 at 2.

Shortly before the start of the May 7, 2024 hearing, the Court provided the parties with the following preliminary construction: "Plain meaning (not subject to 35 U.S.C. 112 ¶ 6)."

(1) The Parties' Positions

Plaintiff argues that Defendant cannot overcome the presumption against means-plus-function treatment for this non-means term. Dkt. No. 132 at 6–7. Plaintiff argues that “[o]n its face, the term ‘group of Network Resource Managers,’ connotes structure—a ‘group of’ individual structural entities, i.e. the individual Network Resource Managers (‘NRMs’),” and “[t]he specification repeatedly describes the NRMs as structures.” *Id.* at 7 & n.2 (citation omitted).

Defendant responds: “‘Group of NRMs’ is an indefinite means-plus-function term because it is discussed solely in terms of the functions it performs, but neither the claims nor specification recite a corresponding structure.” Dkt. No. 137 at 5. Defendant also argues that “NetSocket contends that the patent’s use of the word ‘structure’ or ‘architecture’ is sufficient to connote structure, but these generic words say nothing about what structure carries out any of its functions.” *Id.* at 6 (citing Dkt. No. 132 at 7). Further, Defendant argues that the disclosures cited by Plaintiff “only reveal that an NRM is implemented in software and characterized by the high-level functions that it performs.” Dkt. No. 137 at 7.

Plaintiff replies that “Cisco’s argument that the term NRM simply reflects ‘an arbitrary name’ is contradicted by both the patent specification and their own[] expert’s sworn testimony.” Dkt. No. 138 at 3 (citations omitted).

(2) Analysis

Title 35 U.S.C. § 112, ¶ 6 provides: “An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.” “In exchange for using this form of claiming, the patent specification must disclose with sufficient particularity

the corresponding structure for performing the claimed function and clearly link that structure to the function.” *Triton Tech of Tex., LLC v. Nintendo of Am., Inc.*, 753 F.3d 1375, 1378 (Fed. Cir. 2014).

“[T]he failure to use the word ‘means’ . . . creates a rebuttable presumption . . . that § 112, para. 6 does not apply.” *Williamson v. Citrix Online LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (citations and internal quotation marks omitted). “When a claim term lacks the word ‘means,’ the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function.” *Id.* at 1349 (citations and internal quotation marks omitted).

Williamson, in an en banc portion of the decision, abrogated prior statements that the absence of the word “means” gives rise to a “strong” presumption against means-plus-function treatment. *Id.* (citation omitted). *Williamson* also abrogated prior statements that this presumption “is not readily overcome” and that this presumption cannot be overcome “without a showing that the limitation essentially is devoid of anything that can be construed as structure.” *Id.* (citations omitted). Instead, *Williamson* found, “[h]enceforth, we will apply the presumption as we have done prior to *Lighting World*” *Id.* (citing *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1358 (Fed. Cir. 2004)). In a subsequent part of the decision not considered en banc, *Williamson* affirmed the district court’s finding that the term “distributed learning control module” was a means-plus-function term that was indefinite because of lack of corresponding structure, and in doing so *Williamson* stated that “‘module’ is a well-known nonce word.” 792 F.3d at 1350.

Here, Claim 1 of the ’966 Patent recites (emphasis added):

1. A method in a data network implemented by a first network level having a first addressing scheme and at least a second network level having a second addressing scheme, each network level providing connectivity over at least one network domain, the method comprising the steps of:

controlling resources of the first network level by a first *group of Network Resource Managers (NRMs)*;

controlling resources of the second network level by a second group of NRMs, wherein the first group and the second *group of NRMs* comprise means for communicating on a common network level;

exchanging resource requests between the NRMs of the first and second groups using the first addressing scheme, the NRMs of the first group and the second group admitting new resource requests based at least in part on a total amount of available resources, an amount of resources currently reserved by previous reservations, and an amount of resources requested in the new resource requests; and

performing an address mapping between the first and second addressing schemes so that a set of resources that is used by a reservation in the second group, controlled and known by the second group, is aggregated into a single resource in the first *group of NRMs*.

The specification discloses that the term “Network Resource Manager (NRM)” does not require a particular physical structure but rather is typically software-implemented:

The implementation of any logically centralised NRM may be clustered or otherwise physically distributed according to embodiments of the present invention.

* * *

The entities NRM, NC and DC communicate using general-purpose protocols and/or interfaces allowing functionality to be distributed over different devices/processes or to be co-located at one device/process. The protocols are typically implemented through a client server model with APIs providing a software interface e.g. shielding the protocol details. Each entity may act as both client and server, depending on where in the architecture they reside. Thus, the NRMs, NCs and DCs are *typically implemented in software by a computer program product running on standard hardware*.

’966 Patent at 8:54–56 & 9:26–35 (emphasis added); *see id.* at 8:57–58 (“Each NRM may interact with a number of clients that try to connect to it.”); *see also id.* at 7:44–9:3.

Defendant argues that “Network Resource Manager” is what *Williamson* referred to as a “nonce” term, 792 F.3d at 1350, but Plaintiff presents sufficient evidence tending to show that this

term refers to a known class of structures in the art of data networking, including the following disclosure in the specification:

The entity performing dynamic service management in a provisioned network is here called a *Network Resource Manager (NRM)* (other commonly used terms for this entity are *bandwidth broker, bandwidth manager, network resource controller, network agent, etc.*). This entity keeps track of available resources and performs admission control on incoming requests for resources from clients.

Id. at 2:11–15. Defendant’s expert discounts this disclosure as not amounting to a definition. Dkt. No. 132, Ex. D, Mar. 19, 2024 Jeffay dep. at 23:12–20 (“I think the passage, a person of skill in the art would understand that the passage that we’re looking at in column 2 is just explaining the name that they’re going to use. I mean, it’s really not much of a definition per se.”). This disclosure, however, is evidence of how a person of ordinary skill in the art would understanding the term. And although the threshold question of whether 35 U.S.C. § 112, ¶ 6 applies is “distinct” from examining the specification for corresponding structure, the specification can be consulted when considering the threshold question of whether 35 U.S.C. § 112, ¶ 6 applies. *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1296–97 (Fed. Cir. 2014). Also, Defendant’s expert acknowledges that the disputed term refers to software and that the phrase “bandwidth broker,” for example, has been known in the art. Dkt. No. 132, Ex. D, Mar. 19, 2024 Jeffay dep. at 99:6–11 (“an NRM is software”); *id.* at 40:15–21 (similar); Dkt. No. 138, Ex. F, Apr. 15, 2024 Jeffay dep. at 191:21–192:4 (agreeing that “a person of ordinary skill in the art would recognize the term ‘bandwidth broker’”).

The *Synchronoss* case cited by Defendant, by contrast, is unpersuasive because that case involved a “module” term that was not associated with any class of known structures. *Synchronoss Techs., Inc. v. Dropbox, Inc.*, 987 F.3d 1358, 1367 (Fed. Cir. 2021).

These findings are also consistent with principles articulated by the Federal Circuit after *Williamson* as well as prior to the abrogated *Lighting World* decision. *See Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996) (finding that “detent mechanism” was not a means-plus-function term because “‘detent’ denotes a type of device with a generally understood meaning in the mechanical arts, even though the definitions are expressed in functional terms”; “It is true that the term ‘detent’ does not call to mind a single well-defined structure, but the same could be said of other commonplace structural terms such as ‘clamp’ or ‘container.’ What is important is not simply that a ‘detent’ or ‘detent mechanism’ is defined in terms of what it does, but that the term, as the name for structure, has a reasonably well understood meaning in the art.”); *see also Skky, Inc. v. MindGeek, s.a.r.l.*, 859 F.3d 1014, 1019–21 (Fed. Cir. 2017) (finding “wireless device means” not a means-plus-function term, noting that “it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function”) (quoting *TecSec, Inc. v. Int’l Bus. Machs. Corp.*, 731 F.3d 1336, 1347 (Fed. Cir. 2013)). The opinions of Defendant’s expert to the contrary are unpersuasive. *See* Dkt. No. 137, Ex. B, Apr. 12, 2024 Suppl. Jeffay Decl. at ¶ 85.

The Court therefore hereby expressly rejects Defendant’s proposal that “group of Network Resource Managers” is a means-plus-function term governed by 35 U.S.C. § 112, ¶ 6. Defendant presents no alternative proposed construction, and no further construction is necessary.

The Court accordingly hereby construes “**group of Network Resource Managers**” to have its **plain meaning**.

C. “wherein the first group and second group of NRMs comprise means for communicating on a common network level”

“wherein the first group and second group of NRMs comprise means for communicating on a common network level” (’966 Patent, Claim 1)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
Not subject to section 112(6); Plain and Ordinary meaning Alternatively: Subject to Pre-AIA 112 ¶ 6. Function: communicating on a common network level. Structure: The structure(s) disclosed at, Figs. 1 and 2; 1:30-39; 2:5-8; 2:36-45; 2:47-54; 3:27-34; 3:60-65; 4:7-21; 4:25-34; 4:36-45; 5:22-26; 5:49-67; 6:1-68; 7:1-16; 7:55-65; 8:14-34; 9:35-59; 10:56-68; 11:2-40 and would include equivalent structures.	Subject to 35 U.S.C. 112 ¶ 6 Function: “communicating on a common network level” Structure: none (indefinite)

Dkt. No. 132 at 8; Dkt. No. 137 at 7; Dkt. No. 140 at 2–3.

Shortly before the start of the May 7, 2024 hearing, the Court provided the parties with the following preliminary construction: “Subject to 35 U.S.C. 112 ¶ 6 / Function: “communicating on a common network level” / Structure: “address mapping as disclosed in the ’966 Patent at 6:10–26; and equivalents thereof.”

(1) The Parties’ Positions

Plaintiff argues that the presumption in favor of means-plus-function treatment for this “means” term is overcome because the specification uses the term “NRM” to refer to structures that are commonly known in the art. Dkt. No. 132 at 8–9. Alternatively, Plaintiff argues that “a POSITA would find ample structural support for the function of communicating on a common network level in the specification.” *Id.* at 9.

Defendant responds that “the patent defines an NRM solely in terms of the functions it performs.” Dkt. No. 137 at 8. As to Plaintiff’s alternative argument, Defendant responds that none of the purported structure is clearly linked to the claimed function. *Id.*

Plaintiff replies that “as the patent explains, an NRM is an ‘entity’ also commonly known in the field of networking by the terms including ‘bandwidth broker, bandwidth manager, network resource controller, network agent.’” Dkt. No. 138 at 4 (citing ’966 Patent at 2:11–24).

(2) Analysis

General legal principles regarding 35 U.S.C. § 112, ¶ 6 are set forth as to the term “group of Network Resource Managers,” above.

Claim 1 of the ’966 Patent recites (emphasis added):

1. A method in a data network implemented by a first network level having a first addressing scheme and at least a second network level having a second addressing scheme, each network level providing connectivity over at least one network domain, the method comprising the steps of:

controlling resources of the first network level by a first group of Network Resource Managers (NRMs);

controlling resources of the second network level by a second group of NRMs, *wherein the first group and the second group of NRMs comprise means for communicating on a common network level;*

exchanging resource requests between the NRMs of the first and second groups using the first addressing scheme, the NRMs of the first group and the second group admitting new resource requests based at least in part on a total amount of available resources, an amount of resources currently reserved by previous reservations, and an amount of resources requested in the new resource requests; and

performing an address mapping between the first and second addressing schemes so that a set of resources that is used by a reservation in the second group, controlled and known by the second group, is aggregated into a single resource in the first group of NRMs.

“[T]he use of the word ‘means’ in a claim element creates a rebuttable presumption that § 112, para. 6 applies.” *See Williamson*, 792 F.3d at 1348 (citations and internal quotation marks omitted). The parties dispute whether that presumption has been rebutted here.

Plaintiff cites disclosures in the specification regarding “Network Resource Manager (NRM)”:

The entity performing dynamic service management in a provisioned network is here called a Network Resource Manager (NRM) (other commonly used terms for this entity are bandwidth broker, bandwidth manager, network resource controller, network agent, etc.). This entity keeps track of available resources and performs admission control on incoming requests for resources from clients.

’966 Patent at 2:11–15. Plaintiff also cites, for example, testimony of Defendant’s expert that NRMs “can perform at least the functions of sending and receiving IP.” Dkt. No. 138, Ex. F, Apr. 15, 2024 at 263:10–16.

The term here at issue, however, refers not merely to an NRM but rather to a “means for communicating on a common network level” that is recited as being *part of* “the first group and the second group of NRMs.” The issue is thus whether this particular “means” connotes structure. *See Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1366 (Fed. Cir. 2008) (“Because the claimed generating means is a subset of the bank computer, there must be a recitation of structure that is a component of the bank computer to rebut the presumption. The claim contains no such recitation. As a result, the district court correctly concluded that the presumption of means-plus-function treatment had not been overcome.”). Plaintiff replies that the recited NRM is structure recited in the claim itself for performing the function of communicating on a common network level, arguing that Defendant misapplies *Net MoneyIN* (Dkt. No. 138 at 4), but Plaintiff’s argument is unpersuasive because the issue is not whether a NRM could conceivably perform the function but rather is whether the patentee, having chosen to invoke 35 U.S.C. § 112, ¶ 6 by reciting a “means for,” nonetheless rebutted the presumption by providing a specific component structure in the claim for performing this specific claimed function. To the extent Plaintiff maintains that the

structure is simply one NRM from among the groups of NRMs, no such finding can reasonably be inferred from the claim language.

Plaintiff cites deposition testimony of Defendant's expert, such as that the claimed function "requir[es] a particular relationship between the two groups of network resource managers," but this does not amount to any concession that the phrase "means for communicating on a common network level" connotes any particular structure. *See* Dkt. No. 132, Ex. D, Mar. 19, 2024 Jeffay dep. at 44:3–47:12. Plaintiff does not persuasively demonstrate that "means for communicating" or "means for communicating on a common network level" refers to any known class of structures.

The Court thus finds that this term is a means-plus-function term governed by 35 U.S.C. § 112, ¶ 6. The parties agree on the claimed function. The parties dispute whether the specification discloses corresponding structure.

Plaintiff's expert's opinion on this issue, in its entirety, is as follows:

Alternatively, in the event that the court finds that this claim term along with the structural phrase immediately preceding it [is] expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, it is my opinion that [a] POSITA would understand that this term is directed to the function of "communicating on a common network level." Moreover, a POSITA would understand that the structure(s) for carrying out that function are disclosed at least at, Figs. 1 and 2; 1:30-39; 2:5-8; 2:36-45; 2:47-54; 3:27-33; 3:60-65; 4:7-21; 4:25-34; 4:36-45; 4:46-53; 5:22-26; 5:49-68; 6:1-68; 7:1-16; 7:55-65; 8:14-34; 9:35-59; 10:56-68; 11:2-40 and would include equivalent structure(s).

Dkt. No. 132, Ex. C, Jan. 25, 2024 Congdon Decl. at 9. Plaintiff's expert's string citation of disclosures in the specification is of minimal assistance, if any, to the Court in determining whether the specification discloses corresponding structure.

Nonetheless, the specification discloses that NRMs can communicate on a common level by using "an address mapping":

The data network according to the present invention illustrated in FIG. 1 is implemented by a first network level 104 having a first addressing scheme and at least a second network level 108 having a second addressing scheme. Each network level provides connectivity over at least one network domain e.g., a routing domain, a provider network containing a number of private routing domains, an overlay network, a link layer subnet, or a part of a link layer subnet. A first group of NRMs b-d is arranged to control the resources of the first network level 104 and a second group of NRMs e-g is arranged to control the resources of the second network level 108, wherein the NRMs of the first group b-d and second group e-g comprise means for exchanging resource requests by using the first addressing scheme, and the NRMs of the second group e-g further comprise means for performing an *address mapping between the first and second addressing schemes*.

'966 Patent at 6:10–26 (emphasis added); *see id.* at 8:14–34 (“maintaining the mapping”).

This “address mapping” is disclosed in the context of a first group of NRMs and a second group of NRMs and is thus sufficiently clearly linked to the claimed function of “communicating on a common network level” in the context of “the first group and the second group of NRMs” recited in Claim 1 of the '966 Patent (reproduced above). Indeed, the specification emphasizes “using one single addressing scheme” and “uniform addressing” as part of “[t]he solution according to the present invention.” *Id.* at 10:57–11:2.

Additional disclosures cited by Plaintiff do not clearly link any other particular structure to the claimed function of “communicating on a common network level.” *See id.* at 3:27–34, 5:44–45 (“Internet Protocol”), 5:49–67 (“overlay network”), 6:10–17 & 11:2–40.

Finally, Plaintiff cites deposition testimony of Defendant’s expert purportedly conceding that “IP protocol” is a corresponding structure. *See, e.g.*, Dkt. No. 132, Ex. D, Mar. 19, 2024 Jeffay dep. at 64:13–66:2 (“Would you agree that IP is an example of a protocol that can be used to communicate across a single network level? A If that network level corresponds to the -- to the IP layer, then yes.”); *id.* at 20:2–22:4, 49:17–50:20, 51:8–52:7, 56:4–8, 63:21–24, 66:13–16 & 68:15–23. Plaintiff also argues that Defendant’s expert conceded that “overlay networks,” application layers, and application layer protocols are examples of means for communication. *See,*

e.g., id. at 57:9–18 (“An overlay is commonly just understood as an application layer network where you develop an application, you distribute it around the network, and the communication at the application layer really defines the network structure to the application.”); *id.* at 18:7–20:1, 54:2–6, 63:7–14, 74:24–75:15 & 85:13–20. Plaintiff’s reliance on such deposition testimony of Defendant’s expert is unpersuasive because Plaintiff does not demonstrate a linkage in the specification between these other purported structures and the claimed function of “communicating on a common network level.”

The Court therefore hereby finds that “wherein the first group and second group of NRMs comprise means for communicating on a common network level” is a means-plus-function term, the claimed function is “communicating on a common network level,” and the corresponding structure is **“address mapping as disclosed in the ’966 Patent at 6:10–26; and equivalents thereof.”**

D. “Network Resource Manager” and “NRM”

“Network Resource Manager” “NRM” (’796 Patent, Claims 15–19, 22–28, 31, 35)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
Plain and Ordinary Meaning; Not subject to 35 U.S.C. 112 ¶ 6; (not indefinite)	Subject to 35 U.S.C. 112 ¶ 6 Function: “the steps of claim 1, 15, or 25” Structure: none (indefinite)

Dkt. No. 132 at 12; Dkt. No. 137 at 12; Dkt. No. 140 at 4.

Shortly before the start of the May 7, 2024 hearing, the Court provided the parties with the following preliminary construction: “Plain meaning (not subject to 35 U.S.C. 112 ¶ 6).”

(1) The Parties' Positions

Plaintiff argues that Defendant cannot rebut the presumption against means-plus-function treatment for this non-means term, and “the specification provides significant details about the NRM.” Dkt. No. 132 at 12.

Defendant responds that the “NRM” term “does not connote structure on its own” and “is an indefinite means-plus-function term because it is discussed solely in terms of the functions it performs and neither the claims nor specification recite sufficiently definite structure.” Dkt. No. 137 at 12.

Plaintiff replies that the specification confirms that a person of ordinary skill in the art would understand “Network Resource Manager” as referring to structure, and “Cisco’s argument fails to overcome the well-established presumption that a term lacking the word ‘means’ should not be construed as a means plus function claim [*sic*, term].” Dkt. No. 138 at 6–7.

(2) Analysis

General legal principles regarding 35 U.S.C. § 112, ¶ 6 are set forth as to the term “group of Network Resource Managers,” above.

Because “Network Resource Manager” and “NRM” do not contain the word “means,” there arises a presumption against applying 35 U.S.C. § 112, ¶ 6 to these terms. *Williamson*, 792 F.3d at 1348.

Claim 1 of the ’796 Patent recites:

1. An IP network, including a plurality of domains, comprising:
 - a source domain and a destination domain, the source domain comprising a source terminal and a first *Network Resource Manager (NRM)*, the destination domain comprising a destination terminal and a second *NRM*, the source domain and the destination domain having one or more intermediate domains communicatively coupled between the source domain and the destination domain;
 - the source terminal in the source domain comprising means for sending IP packets requiring a predetermined QoS to the destination terminal;

the first *NRM* in the source domain comprising means for requesting from the second *NRM* a resource sufficient for the transmission of the IP packets to be able to fulfill said QoS;

the second *NRM* comprising means for announcing a domain property label of the destination domain to the first *NRM*, said domain property label characterizing said destination domain, the first *NRM* and the second *NRM* further comprising means for performing an appropriate action and for transmitting the IP packets with said QoS between the source terminal and the destination terminal according to the announced domain property label, said domain property label indicating to the first *NRM* when additional action is required to reserve resources in the destination domain; and

means for using an *NRM* path vector to identify said second *NRM*.

The specification of the '796 Patent discloses that the term "Network Resource Manager (NRM)" does not refer to a physical structure but rather is computer-implemented. *See* '796 Patent at 5:4–20 (reproduced below). Further, the specification cites art in which "a Network Resource Manager (NRM) [wa]s introduced":

In Schelen, O. Quality of Service Agents in the Internet, Doctoral Thesis, Department of Computer Science and Electrical Engineering, Division of Computer Communication, Lulea University of Technology, Lulea, 1998, a *Network Resource Manager (NRM)* is introduced. An NRM can provide inter-domain resource provisioning and call admission control, either independently of the mechanism described above or in co-operation with them. Among these, the combination of differentiated forwarding and NRM operates along the fundamental lines of stateless forwarding and inter-domain aggregation as described. The NRM has path-sensitive admission control, scheduling of resources over time, capability to handle resource requests for immediate and future use, resource signalling between resource manager entities (i.e. inter-domain communication) and aggregation of resource requests towards a destination domain identified by an address prefix. The NRM is aware of topology and characteristics of the network and can thus keep track of resources that exist in a routing domain based on topology. For each domain in the network there is an NRM responsible for admission control. Instances of NRM can perform admission control in its own domain and reserve resources with neighbouring NRMs for other destinations. The NRM can therefore provide a predictable QoS.

* * *

The routers 201, 202 respectively interconnect 206, 212, 209 different networks 203, 208 e.g. different LANs comprising terminals. An NRM e,f comprises of a computer program for e.g. reserving resources and may e.g. be implemented in a respective server 210, 211 or alternatively in a respective router 201, 202. A server

is substantially a device for storing and computing data while the router is mainly routing IP packets.

The NRM has the features as described above under “Background of the invention” e.g. performing admission control and inter-domain communication 205, 210 and aggregation of resource requests by using the funnel concept all the way to the NRM in the destination domain. The NRMs are further responsible for destination address prefix aggregation by announcing appropriate destination address prefix and according to the present invention label those destinations with a domain property label.

’796 Patent at 2:44–67 & 5:4–20.

Defendant argues that the specification does not link the Schelen art to the claimed functions, but Defendant’s argument conflates the corresponding structure inquiry under 35 U.S.C. § 112, ¶ 6 with the “distinct” threshold question of whether 35 U.S.C. § 112, ¶ 6 applies. *See Apple*, 757 F.3d at 1296–97. The *Pressure Products* case cited by Defendant is therefore inapplicable. *See Pressure Products Med. Supplies, Inc. v. Greatbatch Ltd.*, 599 F.3d 1308, 1317 (Fed. Cir. 2010).

The specification thus demonstrates, as to the threshold question of whether 35 U.S.C. § 112, ¶ 6 applies, that the term “Network Resource Manager” refers to a known class of structures in the art of data networking, and the above-reproduced disclosure refers to various capabilities of such structures. ’796 Patent at 2:54–60. The opinions of Defendant’s expert to the contrary are unpersuasive. *See* Dkt. No. 137, Ex. B, Apr. 12, 2024 Suppl. Jeffay Decl. at ¶ 75. To the extent Defendant is arguing that the patent does not adequately describe how a Network Resource manager is configured to operate, Defendant’s argument perhaps might pertain to issues of enablement or written description but does not demonstrate any indefiniteness (and does not rebut the presumption against means-plus-function treatment for this non-means term).

The Court therefore hereby expressly rejects Defendant’s proposal that “Network Resource Manager” and “NRM” are means-plus-function terms governed by 35 U.S.C. § 112, ¶ 6. Defendant presents no alternative proposed construction, and no further construction is necessary.

The Court accordingly hereby construes “**Network Resource Manager**” and “**NRM**” to have their **plain meaning**.

E. “means for announcing a domain property label”

“means for announcing a domain property label of the first domain to the second NRM” (’796 Patent, Claim 15)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
<p>Function: announcing a domain property label of the first domain to the second NRM.</p> <p>Structure: The structure(s) disclosed at 1:15-16; 5:4-16; 5:37-39; 5:46-6:34; 7:27-8:10; 8:40-41; 8:54-55; 8:59-65, Figs. 2-4, would include equivalent structures.</p>	<p>Subject to 35 U.S.C. 112 ¶ 6</p> <p>Function: “announcing a domain property label of the first domain to the second NRM”</p> <p>Structure: none (indefinite)</p>
“the second NRM announcing a domain property label of the destination domain to the first NRM, said domain property label characterizing said destination domain” (’796 Patent, Claim 25)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
<p>Function: announcing a domain property label of the destination domain to the first NRM.</p> <p>Structure: The structure(s) disclosed at 1:15-16; 5:4-16; 5:37-39; 5:46-6:34; 7:27-8:10; 8:40-41; 8:54-55; 8:59-65, Figs. 2-4, and would include equivalent structures</p>	<p>Subject to 35 U.S.C. 112 ¶ 6</p> <p>Function: “announcing a domain property label”</p> <p>Structure: none (indefinite)</p>

Dkt. No. 132 at 16; Dkt. No. 137 at 19; Dkt. No. 140 at 5–6.

Shortly before the start of the May 7, 2024 hearing, the Court provided the parties with its preliminary construction that the first of these terms is subject to 35 U.S.C. 112, ¶ 6 (the Court did

not provide a preliminary construction for corresponding structure) and that the second of these terms is not subject to 35 U.S.C. 112, ¶ 6, and has its plain meaning.

(1) The Parties' Positions

Plaintiff argues that a person of ordinary skill in the art would readily appreciate that the specification provides structure for this claimed function. Dkt. No. 132 at 16–17.

Defendant responds that “[t]his term is indefinite because the specification does not disclose any structure that is clearly linked to the claimed function.” Dkt. No. 137 at 19. Defendant also argues that “[d]espite not using ‘means’ language, the term ‘announcing a domain property label’ in claim 25 should also be construed as a means-plus-function term and found indefinite because nothing in the claims, specification, or prosecution history ‘describe[s] any structure for performing th[e] function[.]’” *Id.* at 20.

Plaintiff replies that “[t]he ’796 patent provides structural details about the means for announcing a domain property label” and “provides significant detail about the types of such transmissions.” Dkt. No. 138 at 8–9.

(2) Analysis

Claim 15 of the ’796 Patent, for example, recites in relevant part (emphasis added):

15. A Network Resource Manager (NRM) unit within a first domain within an IP network, the NRM unit comprising:

...

said NRM unit comprising means for announcing a domain property label of the first domain to the second NRM, said domain property label characterizing a destination domain and indicating to the second NRM when additional action is required to reserve resources in the first domain;

Plaintiff argues that the corresponding structure can simply be an NRM unit (*see* ’796 Patent at 5:12–45, 7:43–44 (“The NRM h announces the domain property label of the domain I to the NRM g.”), 7:64–65 (similar), 8:4 (similar) & 8:54–55 (similar)), but the claims (such as above-

reproduced Claim 15) recite that the “means for announcing” is *part of* an NRM unit. Plaintiff cites various disclosures, including disclosure regarding types of domain property labels (*id.* at 5:46–6:34), but Plaintiff identifies no disclosure of a structure that is part of an NRM unit and “clearly link[ed]” to the claimed functions of “announcing a domain property label of the first domain to the second NRM.” *Triton Tech*, 753 F.3d at 1378.

Also, Plaintiff’s expert provides no specific opinion other than to cite the various disclosures cited in Plaintiff’s briefing, none of which links any particular structure within an NRM to the claimed function of “announcing a domain property label of the first domain to the second NRM.” Dkt. No. 132, Ex. C, Jan. 25, 2024 Congdon Decl. at pp. 14–15. The statement of Defendant’s expert that “it’s a second NRM that does the announcing of the property domain label [in Claim 25 of the ’796 Patent]” is therefore unavailing. Dkt. No. 132, Ex. D, Mar. 19, 2024 dep. at 92:9–11.

The disclosure cited by Plaintiff during the May 7, 2024 hearing is likewise unavailing. Plaintiff argued that the linkage to the claimed “announcing” function is implicit in the disclosure of protocols, which are inherently for transmitting and communicating (and “announcing,” Plaintiff argued, is transmitting and/or communicating). The disclosure cited by Plaintiff does not refer to “announcing,” *see* ’796 Patent at 5:46–58, and Plaintiff’s arguments at the hearing, regarding what is implicit or what can be inferred, did not rise to the level of “clearly link[ing]” anything to the claimed function. *Triton Tech*, 753 F.3d at 1378.

The “means for announcing” term thus lacks corresponding structure.

As for the “announcing” term in Claim 25 of the ’796 Patent, at the May 7, 2024 hearing Plaintiff agreed with the Court’s preliminary construction that this term is not subject to 35 U.S.C. § 112, ¶ 6, and has its plain meaning. This term does not use the word “means,” so the presumption

against means-plus-function treatment arises. Defendant does not persuasively rebut this presumption.

Defendant argues that the “announcing” term is indefinite because “the patent distinguishes ‘announcing’ and ‘sending’ a domain property label and does not elaborate on how to make an announcement or describe what ‘announcing’ entails.” Dkt. No. 137 at 20 (citing *id.*, Ex. B, Apr. 12, 2024 Jeffay Suppl. Decl. at ¶ 6). Defendant does not carry its burden to show indefiniteness by clear and convincing evidence in this regard. *Sonix*, 844 F.3d at 1377. To the extent Defendant maintains that the patent does not adequately describe the “announcing,” Defendant’s argument perhaps might pertain to issues of enablement or written description but does not rebut the presumption against means-plus-function treatment for this non-means term. Finally, to the extent Defendant contended at the May 7, 2024 hearing that “announcing” is itself indefinite because of lack of reasonable clarity, Defendant did not adequately raise this argument in its briefing, and, in any event, Defendant has not persuasively shown any lack of reasonable clarity as to “announcing.”

The Court therefore hereby construes these disputed terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
“means for announcing a domain property label of the first domain to the second NRM” (’796 Patent, Claim 15)	Subject to 35 U.S.C. 112, ¶ 6 Function: “announcing a domain property label of the first domain to the second NRM” Structure: none (indefinite)
“the second NRM announcing a domain property label of the destination domain to the first NRM, said domain property label characterizing said destination domain” (’796 Patent, Claim 25)	Not subject to 35 U.S.C. 112, ¶ 6 Plain meaning

F. “means for performing an appropriate action and for transmitting the IP packets . . .”

“means for performing an appropriate action comprises means for receiving a call from a requesting device and extending resource reservations from the NRM unit to a particular endpoint” (’796 Patent, Claim 22)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
Subject to 35 U.S.C. 112 ¶ 6 Function: receiving a call from a requesting device and extending resource reservations from the NRM unit to a particular endpoint. Structure: The structure(s) disclosed at 1:15-16; 1:22-33; 1:50-3:50; 5:4-16; 7:7-10; 1:50-3:50; 6:10-17; 6:20-29; 6:35-50; 8:19-34; 8:59-65, Figs. 2-4 and would include equivalent structures.	Subject to 35 U.S.C. 112 ¶ 6 Function: “performing an appropriate action comprises means for receiving a call from a requesting device and extending resource reservations from the NRM unit to a particular endpoint” Structure: none (indefinite)
“means for receiving a call from a requesting device and extending resource reservations from the NRM unit to a particular endpoint” (’796 Patent, Claim 22)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
Function: receiving a call from a requesting device and extending resource reservations from the NRM unit to a particular endpoint. Structure: The structure(s) disclosed at 1:15-16; 1:22-33; 1:50-3:50; 5:4-16; 7:7-10; 1:50-3:50; 6:10-17; 6:20-29; 6:35-50; 8:19-34; 8:59-65, Figs. 2-4 and would include equivalent structures.	Subject to 35 U.S.C. 112 ¶ 6 Function: “performing an appropriate action comprises means for receiving a call from a requesting device and extending resource reservations from the NRM unit to a particular endpoint” Structure: none (indefinite)

<p align="center">“performing one of several actions for transmitting said IP packets with said QoS between the source terminal and the destination terminal according to the announced domain property label, at least one of the several actions causing the first NRM to perform additional communications with the second NRM to reserve resources” (’796 Patent, Claim 25)</p>	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
<p>Subject to 35 U.S.C. 112 ¶ 6.</p> <p>Function: transmitting [<i>sic</i>] “transmitting IP packets with said QoS between the source terminal and the destination terminal according to the announced domain property label.</p> <p>Structure: The structure(s) disclosed at 1:50-3:50; 4:5-11; 4:40-54; 5:4-45; 6:20-23; 7:9-10; 7:21-35; 7:50-60; 8:37-39; 8:49-51; 8:59-65; Figs. 2-4, would include equivalent structures.</p>	<p>Subject to 35 U.S.C. 112 ¶ 6.</p> <p>Function: 1) “performing an appropriate action and for transmitting the IP packets with said QoS between the source terminal and the destination terminal according to the announced domain property label” and</p> <p>2) “performing an appropriate action, to provide a QoS end-to[-]end, between a first endpoint and a second endpoint, according to the announced domain property label”</p> <p>Structure: none (indefinite)</p>

Dkt. No. 132 at 17; Dkt. No. 137 at 20–22; Dkt. No. 140 at 9–11.

Shortly before the start of the May 7, 2024 hearing, the Court provided the parties with its preliminary constructions that the first and second of these terms are subject to 35 U.S.C. 112, ¶ 6 (the Court did not provide preliminary constructions for corresponding structure), and the third of these terms is not subject to 35 U.S.C. 112, ¶ 6, and has its plain meaning.

(1) The Parties’ Positions

Plaintiff argues that a person of ordinary skill in the art would readily appreciate that the specification provides structure for this claimed function. Dkt. No. 132 at 18.

Defendant responds that “[t]hese terms are indefinite because, for each term, the specification does not disclose any structure that is clearly linked to the claimed function.” Dkt. No. 137 at 22.

Plaintiff replies that “[i]n the context of the algorithms discussed at 7:21–8:41, the ’796 patent describes examples of appropriate actions.” Dkt. No. 138 at 9 (citing ’796 Patent at 8:16–41).

(2) Analysis

As a threshold matter, to the extent Defendant contended at the May 7, 2024 hearing that “appropriate” is itself indefinite because of lack of reasonable clarity, Defendant did not adequately raise this argument in its briefing, and, in any event, Defendant has not persuasively shown any lack of reasonable clarity as to “appropriate.”

Substantially the same analysis applies to these “means for performing” and “performing” terms (including the “means for receiving” recited therein) as discussed above regarding the “means for announcing” and “announcing” terms. *See, e.g.*, ’796 Patent at 7:21–8:41; *id.*, Cl. 22 (depending from Claim 15); *id.*, Cl. 15 (reciting “the NRM unit comprising: . . .”). Also, at the May 7, 2024 hearing, Plaintiff agreed with the Court’s preliminary construction of the “performing . . .” term as not being subject to 35 U.S.C. § 112, ¶ 6, and as having its plain meaning.

The Court therefore hereby construes these terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
“means for performing an appropriate action comprises means for receiving a call from a requesting device and extending resource reservations from the NRM unit to a particular endpoint” (’796 Patent, Claim 22)	Subject to 35 U.S.C. 112, ¶ 6 Function: “performing an appropriate action comprises means for receiving a call from a requesting device and extending resource reservations from the NRM unit to a particular endpoint” Structure: none (indefinite)

<p>“means for receiving a call from a requesting device and extending resource reservations from the NRM unit to a particular endpoint” (’796 Patent, Claim 22)</p>	<p>Subject to 35 U.S.C. 112, ¶ 6</p> <p>Function: “receiving a call from a requesting device and extending resource reservations from the NRM unit to a particular endpoint”</p> <p>Structure: none (indefinite)</p>
<p>“performing one of several actions for transmitting said IP packets with said QoS between the source terminal and the destination terminal according to the announced domain property label, at least one of the several actions causing the first NRM to perform additional communications with the second NRM to reserve resources” (’796 Patent, Claim 25)</p>	<p>Not subject to 35 U.S.C. 112, ¶ 6.</p> <p>Plain meaning</p>

G. “means for using an NRM path vector . . .”

<p>“means for using an NRM path vector to identify a third NRM within a third domain” (’796 Patent, Claim 15)</p>	
<p>Plaintiff’s Proposed Construction</p>	<p>Defendant’s Proposed Construction</p>
<p>Subject to 112 ¶6.</p> <p>Function: using an NRM path vector to identify a third NRM within a third domain.</p> <p>Structure: The structure(s) disclosed at 2:22-5:50; 4:12-17; 5:4-16; 6:36-50; 7:37-42; 7:60-63; 8:1-3; 8:28-34; 8:42-65, Figs. 2-4, and would include equivalent structures.</p>	<p>Subject to 35 U.S.C. 112 ¶ 6</p> <p>Function: “using an NRM path vector to identify a third NRM within a third domain”</p> <p>Structure: none (indefinite)</p>

“means for using the NRM path vector to detect denials and/or failures along a path, between the first endpoint and a third endpoint” (’796 Patent, Claim 16)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
Subject to 112 ¶6. Function: using the NRM path vector to detect denials and/or failures along a path, between the first endpoint and a third endpoint. Structure: The structure(s) disclosed at 2:22-5:50; 4:12-17; 5:4-16; 6:36-50; 7:37-42; 7:60-63; 8:1-3; 8:28-34; 8:42-65, Figs. 2-4, and would include equivalent structures.	Subject to 35 U.S.C. 112 ¶ 6 Function: “using an NRM path vector” Structure: none (indefinite)
“using the NRM path vector to detect denials and/or failures along a path, from the source terminal to the end-terminal” (’796 Patent, Claim 28)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
Subject to 112 ¶6. Function: using the NRM path vector to detect denials and/or failures along a path, between the first endpoint and a third endpoint. Structure: The structure(s) disclosed at 2:22-5:50; 4:12-17; 5:4-16; 6:36-50; 7:37-42; 7:60-63; 8:1-3; 8:28-34; 8:42-65, Figs. 2-4, and would include equivalent structures.	Subject to 35 U.S.C. 112 ¶ 6 Function: “using an NRM path vector” Structure: none (indefinite)

Dkt. No. 132 at 18–19; Dkt. No. 137 at 22–24; Dkt. No. 140 at 7–8.

Shortly before the start of the May 7, 2024 hearing, the Court provided the parties with its preliminary constructions that the first and second of these terms are subject to 35 U.S.C. 112, ¶ 6 (the Court did not provide preliminary constructions for corresponding structure) and that the third of these terms is not subject to 35 U.S.C. 112, ¶ 6, and has its plain meaning.

(1) The Parties' Positions

Plaintiff argues that a person of ordinary skill in the art would readily appreciate that the specification provides structure for this claimed function. Dkt. No. 132 at 19–20.

Defendant responds that “[t]hese terms are indefinite because the specification does not disclose any structure that is clearly linked to the claimed functions.” Dkt. No. 137 at 24.

Plaintiff replies: “The patent describes the purpose and use of the NRM path vector, including with respect to, specific use cases relating to ‘denials or failures’ and prior art protocols, such as MPLS. *See e.g.* [’796 Patent] at 2:22–37; 2:44–3:50; 6:35–50. These limitations are fully supported by structural disclosures.” Dkt. No. 138 at 9.

(2) Analysis

Substantially the same analysis applies to these “means for using” and “using” terms as discussed above regarding the “means for announcing” and “announcing” terms. *See, e.g.*, ’796 Patent at 6:37–50 (“e.g., if a request is denied the path vector shows where denial occurred, or if an NRM is inaccessible said path vector shows where the problems are located”); *id.*, Cl. 15 (reciting “the NRM unit comprising: . . .”).

The Court therefore hereby construes these terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
“means for using an NRM path vector to identify a third NRM within a third domain” (’796 Patent, Claim 15)	Subject to 35 U.S.C. 112, ¶ 6 Function: “using an NRM path vector to identify a third NRM within a third domain” Structure: none (indefinite)

<p>“means for using the NRM path vector to detect denials and/or failures along a path, between the first endpoint and a third endpoint” (’796 Patent, Claim 16, 28)</p>	<p>Subject to 35 U.S.C. 112, ¶ 6</p> <p>Function: “using the NRM path vector to detect denials and/or failures along a path, between the first endpoint and a third endpoint”</p> <p>Structure: none (indefinite)</p>
<p>“using the NRM path vector to detect denials and/or failures along a path, from the source terminal to the end-terminal” (’796 Patent, Claim 16, 28)</p>	<p>Not subject to 35 U.S.C. 112, ¶ 6</p> <p>Plain meaning</p>

H. “means for aggregating said resource request with other requests from another domain”

<p>“means for aggregating said resource request with other requests from another domain” (’796 Patent, Claim 19)</p>	
<p>Plaintiff’s Proposed Construction</p>	<p>Defendant’s Proposed Construction</p>
<p>Function: aggregating said resource request with other requests from another domain.</p> <p>Structure: The structure(s) disclosed at 1:50-3:50; 4:5-11; 4:40-54; 5:4-16; 5:6-45; 6:12-17; 6:20-23; 6:35-50; 7:9-20; 7:21-35; 7:50-60; 8:37-39; 8:49-51; 8:59-65; Figs. 2-4, and would include equivalent structures.</p>	<p>Subject to 35 U.S.C. 112 ¶ 6</p> <p>Function: “aggregating said resource request with other requests from another domain”</p> <p>Structure: none (indefinite)</p>

Dkt. No. 132 at 20; Dkt. No. 137 at 24; Dkt. No. 140 at 8.

Shortly before the start of the May 7, 2024 hearing, the Court provided the parties with the following preliminary construction: “Subject to 35 U.S.C. 112 ¶ 6 / Function: “aggregating said resource request with other requests from another domain” / Structure: “programming to perform the algorithm disclosed in the ’796 Patent at 7:11–20; and equivalents thereof.”

(1) The Parties' Positions

Plaintiff argues that a person of ordinary skill in the art would readily appreciate that the specification provides structure for this claimed function. Dkt. No. 132 at 20.

Defendant responds that “[t]hese terms are indefinite because the specification does not disclose any structure that is clearly linked to the claimed functions.” Dkt. No. 137 at 24.

Plaintiff replies: “This limitation is disclosed by the ‘funnel concept’ algorithm described in the background of the patent, which provides structural details such as the concept of ‘destination address prefix aggregation.’ Thus, this term is tied to structure in the patent and [is] not invalid.” Dkt. No. 138 at 9.

(2) Analysis

The specification of the ’796 Patent discloses:

The NRM has the features as described above under “Background of the invention” e.g. performing admission control and inter-domain communication 205, 210 and *aggregation* of resource requests by using the funnel concept all the way to the NRM in the destination domain. The NRMs are further responsible for destination address prefix *aggregation* by announcing appropriate destination address prefix and according to the present invention label those destinations with a domain property label.

’796 Patent at 5:12–20 (emphasis added).

The corresponding structure cannot simply be an NRM, however, because the claims recite the NRM as *comprising* “means for aggregating” Claims 7 and 19 of the ’796 Patent recite (emphasis added):

7. The IP network according to claim 1, wherein *the first and second NRM comprise* means for aggregating said resource request with other requests from another domain.

* * *

19. *The NRM unit* according to claim 15, further *comprising* means for aggregating said resource request with other requests from another domain.

Nonetheless, the specification discloses an algorithm for performing the function of aggregating requests. The specification discloses:

The following steps are performed:

The terminal 301 first requests ten units from the NRM g and then

the NRM g requests 303 ten units to the endpoint 302 from the NRM h.

This second request is *aggregated with other requests from other domains e.g. the domain J sends a request 307 for five units to an endpoint located in the domain K, that has data to send which also have to pass through the domain H and have its destination in the domain I or beyond, e.g. the domain K*. Each NRM comprises only one or a few reservations per destination domain. For example, the QoS may be divided into different classes in terms of e.g. delay, bitrate, etc. Thus, it could be one reservation per destination domain and per QoS-class.

'796 Patent at 7:11–20 (emphasis added).

At the May 7, 2024 hearing, Plaintiff also proposed that the corresponding structure includes the disclosures in the '796 Patent at 3:1–12 and 5:12–20, the latter of which is reproduced above, and the former of which discloses:

The funnel concept is also introduced in Schelen. The funnel concept is a scalable model for *aggregation* of resource requests. The funnel concept uses NRMs, and NRMs ask for resources from other NRMs. Reservations from different sources to the same destination are *aggregated* where they merge along the paths so each NRM has at most one reservation per destination domain with their neighbouring agents. An NRM in charge of the domain where the destination point is located can generalize received reservation requests for that point to cover any endpoint in its domain. FIG. 1 shows how resource requests are *aggregated* towards the destination domain.

Id. at 3:1–12. These disclosures proposed by Plaintiff are linked to the claimed function of “aggregating said resource request with other requests from another domain” and should be included as corresponding structure.

The Court therefore finds that “means for aggregating said resource request with other requests from another domain” is a means-plus-function term, the claimed function is “aggregating

said resource request with other requests from another domain,” and the corresponding structure is **“programming to perform the algorithm disclosed in the ’796 Patent at 3:1–12, 5:12–20, and 7:11–20; and equivalents thereof.”**

I. “means for receiving a resource request from a second NRM”

“means for receiving a resource request from a second NRM” (’796 Patent, Claim 15)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
Subject to 35 U.S.C. 112 ¶ 6 Function: receiving a resource request from a second NRM. Structure: The structure(s) disclosed at 1:50-63; 5:4-16; 6:20-24; 7:27-8:41; 8:56-65, Figs. 2-3, would include equivalent structures.	Subject to 35 U.S.C. 112 ¶ 6 Function: “receiving a resource request from a second NRM” Structure: none (indefinite)

Dkt. No. 132 at 20; Dkt. No. 137 at 25; Dkt. No. 140 at 5.

Shortly before the start of the May 7, 2024 hearing, the Court provided the parties with its preliminary construction that this term is subject to 35 U.S.C. 112, ¶ 6 (the Court did not provide a preliminary construction for corresponding structure).

(1) The Parties’ Positions

Plaintiff argues that a person of ordinary skill in the art would readily appreciate that the specification provides structure for this claimed function. Dkt. No. 132 at 21.

Defendant responds that “[t]his term is indefinite because the specification does not disclose any structure that is clearly linked to the claimed function.” Dkt. No. 137 at 25.

Plaintiff replies that “the RSVP protocol, mentioned repeatedly in the specification, is tied to the function” Dkt. No. 138 at 8.

(2) Analysis

Substantially the same analysis applies to this “means for receiving” as discussed above regarding the “means for announcing” and “announcing” terms. *See, e.g.*, ’796 Patent at Cl. 15 (reciting “the NRM unit comprising: . . .”). Disclosures regarding “Resource ReSerVation Protocol (RSVP),” *id.* at 6:20–23 & 8:37–39, cited by Plaintiff, are not “clearly link[ed] to the claimed function. *Triton Tech*, 753 F.3d at 1378.

The Court therefore hereby construes “means for receiving a resource request from a second NRM” to be a means-plus-function term and the claimed function is “receiving a resource request from a second NRM,” but the specification does not disclose corresponding structure, and **Claim 15 of the ’796 Patent is therefore indefinite.**

J. “means for performing an appropriate action, to provide a QoS end-to-end, between a first endpoint and a second endpoint, according to the announced domain property label”

“means for performing an appropriate action, to provide a QoS end-to-end, between a first endpoint and a second endpoint, according to the announced domain property label” (’796 Patent, Claim 15)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
Subject to 35 U.S.C. 112 ¶ 6 Function: performing an appropriate action, to provide a QoS end-to-end, between a first endpoint and a second endpoint, according to the announced domain property label. Structure: The structure(s) disclosed at 1:50-3:53; 5:4-45; 5:58-6:34; 7:27-8:65, Figs. 2-4, would include equivalent structures.	Subject to 35 U.S.C. 112 ¶ 6 Function: performing an appropriate action, to provide a QoS end-to-end, between a first endpoint and a second endpoint, according to the announced domain property label Structure: none (indefinite)

Dkt. No. 132 at 21; Dkt. No. 140 at 6.

Shortly before the start of the May 7, 2024 hearing, the Court provided the parties with its preliminary construction that this term is subject to 35 U.S.C. 112, ¶ 6 (the Court did not provide a preliminary construction for corresponding structure).

(1) The Parties' Positions

Plaintiff argues that a person of ordinary skill in the art would readily appreciate that the specification provides structure for this claimed function. Dkt. No. 132 at 21.

Defendant responds that “the specification does not disclose any structure that is clearly linked to the claimed function.” Dkt. No. 137 at 22.

(2) Analysis

As a threshold matter, to the extent Defendant contended at the May 7, 2024 hearing that “appropriate” is itself indefinite because of lack of reasonable clarity, Defendant did not adequately raise this argument in its briefing, and, in any event, Defendant has not persuasively shown any lack of reasonable clarity as to “appropriate.”

Substantially the same analysis applies to this “means for performing” term as discussed above regarding the “means for announcing” and “announcing” terms. *See, e.g.*, ’796 Patent at Cl. 15 (reciting “the NRM unit comprising: . . .”). Additional disclosures cited by Plaintiff likewise do not link any structure within an NRM unit to the claimed function of performing an appropriate action. *See* ’796 Patent at 5:4–45, 5:58–6:34 & 7:27–8:65. In particular, at the May 7, 2024 hearing, Plaintiff cited disclosure regarding “extend[ing] QoS to a particular end-point 302,” *id.* at 8:28–34, but nothing in this disclosure links the claimed function to any particular structure within an NRM.

The Court therefore hereby construes “means for performing an appropriate action, to provide a QoS end-to-end, between a first endpoint and a second endpoint, according to the

announced domain property label” to be a means-plus-function term, the claimed function is “performing an appropriate action, to provide a QoS end-to-end, between a first endpoint and a second endpoint, according to the announced domain property label, but the specification does not disclose corresponding structure, and **Claim 15 of the ’796 Patent is therefore indefinite.**

K. “terminal” and “endpoint”

<p style="text-align: center;">“terminal” “endpoint” (’796 Patent, Claims 15, 16, 22, 25, 35, 38)</p> <p style="text-align: center;">“first endpoint” “second endpoint” (’796 Patent, Claims 15, 16)</p> <p style="text-align: center;">“source terminal” “destination terminal” (’796 Patent, Claims 25, 28, 38)</p>	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
Plain and Ordinary Meaning	Plain and ordinary meaning which is an end-user device such as a PC, IP telephone, mobile phone, or laptop

Dkt. No. 132 at 23; Dkt. No. 140 at 7 & 10.

Shortly before the start of the May 7, 2024 hearing, the Court provided the parties with the following preliminary constructions:

<u>Term</u>	<u>Construction</u>
“terminal” “endpoint”	“data network device that is a source of data or that is a destination for data”
“first endpoint” “second endpoint”	Plain meaning (apart from the Court’s construction of “endpoint”)
“source terminal”	“data network device that is a source of data”
“destination terminal”	“data network device that is a destination of data”

(1) The Parties' Positions

Plaintiff argues that Defendant attempts to limit these terms to preferred embodiments disclosed in the specification and that there is no lexicography or other support in the evidence for Defendant's narrow proposal. Dkt. No. 132 at 23–24.

Defendant responds that “[t]he parties agree that these terms should be given their plain and ordinary meaning, but Cisco’s explanatory construction is necessary because Netsocket is reading these terms so broadly that they would include any intermediate network device (e.g., routers and switches)—effectively reading out the terms ‘source’ and ‘destination’ and reading ‘endpoint’ as simply a ‘point.’” Dkt. No. 137 at 10–11 (citation omitted). Defendant urges that surrounding claim language “confirms that an ‘endpoint’ or ‘terminal’ is a device that is on either end of a data transmission,” and Defendant similarly cites the specification as “confirm[ing] that an ‘endpoint’ or a ‘terminal’ is an end-user device.” *Id.* at 11 (citations omitted).

Plaintiff replies that “[t]here are no clear and unequivocal statements limiting the terms endpoint and terminal as Cisco would suggest.” Dkt. No. 138 at 6.

(2) Analysis

The specification of the '796 Patent discloses:

Domain E comprises a *router* 201, a Network Resource Manager (NRM) e, a *server* 210 and a subnetwork 208 comprising a terminal 207. In the example described in FIG. 2, the domain E may be a source domain. Or the source domain may be a third domain that transmits packets through domain E in order to reach a destination domain F. The domain, wherein the *terminal* of the sender is located, is referred to as the source domain.

The destination domain F and comprises a *server* 211, a *router* 202, an NRM f, a subnetwork 203 and an *endpoint* within one of the subnetworks 203. A domain wherein the *endpoints* are located is referred to as the destination domain.

Each subnetwork 203, 208 further comprises at least one terminal 204, 207. Each terminal 204 is assigned a dynamic or static IP address by the subnetwork 203, 208.

The terminal 204, whereto the packets are intended to be sent, is referred to as an endpoint. The subnetwork 203, 208 may exemplary be a LAN, comprising at least one gateway, at least one server and at least one terminal, or a wireless network, comprising at least one Radio Network Controller (RNC), at least one Base Station (BS) and at least one mobile terminal. The terminal 204, 207 may preferabl[y] be a PC or an IP telephone in a wireline network or a mobile phone or a laptop in a wireless network.

* * *

An IP network 300 according to a second embodiment of the invention is disclosed in FIG. 3. The IP network 300 comprises five routing domains G, H, I, J, K, wherein one domain G is a source domain and one domain I is the destination domain. The source domain G comprises an NRM g and an *endpoint* constituting a terminal 301 and the destination domain I comprises an NRM i, a destination unit 311 and an *endpoint* 302. Further, the intermediate domain H comprises an NRM h, an *endpoint* 312 and a device 313, the domain J comprises an NRM j and the domain K comprises an NRM k. Each NRM can communicate with other NRMs within other domains and with the *endpoints*.

'796 Patent at 4:47–5:3 & 6:51–62 (emphasis added); *see id.* at Fig. 3.

Defendant proposes referring specifically to the disclosed examples that “[t]he terminal 204, 207 may preferabl[y] be a PC or an IP telephone in a wireline network or a mobile phone or a laptop in a wireless network.” *Id.* at 4:67–5:3. Including these examples in the Court’s construction, however, would risk that the finder of fact might perceive the examples as limiting.

Also, Defendant’s proposal of referring to an “end-user” device would tend to confuse rather than clarify the scope of the claims. For example, construing these terms with reference to an “end-user” might require an infringement analysis to take into account how a particular device is used, or intended to be used, which might give rise to unnecessary disputes regarding, for example, subjective intent.

Nonetheless, the specification distinguishes a “terminal” or “endpoint” from a “router” or a “server.” Although this does not necessarily preclude a “router” or “server” from operating in the role of a “terminal” or “endpoint,” the terms “terminal” and “endpoint” refer to a device that

is at an end of a communication path rather than at an intermediate point. This is most apparent, for example, in the disclosure that “[t]he terminal 204, whereto the packets are intended to be sent, is referred to as an endpoint.” *Id.* at 4:61–63. Also, Claim 15 of the ’796 Patent recites “end-to-end” and recites providing QoS “between a first endpoint and a second endpoint,” so the term “endpoint” can refer to a source as well as to a destination. This is consistent with an extrinsic technical dictionary definition of “endpoint” cited by Defendant. Dkt. No. 137, Ex. D, *Dictionary of Internetworking Terms and Acronyms* 130, 353 (2001) (defining “endpoint” as: “H.323 terminal or gateway. An endpoint can call and be called. It generates and terminates the information stream.”).

The deposition testimony of Defendant’s expert cited by Plaintiff does not compel otherwise. Dkt. No. 138, Ex. F, Apr. 15, 2024 at 241:13–19 (“Q Can an NRM be an endpoint? A If one defines an application layer protocol for NRMs, then they can be endpoints for that, for use of that protocol.”) & 319:16–19 (“generally routers are not endpoints”).

Any remaining disputes, such as regarding distinctions between sources, destinations, and intermediate points, pertain to factual issues regarding infringement rather than any legal question for claim construction. *See PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1355 (Fed. Cir. 1998) (“after the court has defined the claim with whatever specificity and precision is warranted by the language of the claim and the evidence bearing on the proper construction, the task of determining whether the construed claim reads on the accused product is for the finder of fact”); *see also Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 806 (Fed. Cir. 2007) (“[t]he resolution of some line-drawing problems . . . is properly left to the trier of fact”) (citing *PPG*, 156 F.3d at 1355); *Eon Corp. IP Holdings LLC v. Silver Spring Networks, Inc.*, 815 F.3d 1314, 1318–19 (Fed. Cir. 2016) (citing *PPG*, 156 F.3d at 1355; citing *Acumed*, 483 F.3d at 806).

Finally, the parties do not propose any particular constructions for “first endpoint,” “second endpoint,” “source terminal,” and “destination terminal.” Instead, the parties present their dispute only as to the constituent terms “terminal” and “endpoint.”

The Court therefore hereby construes these disputed terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
“terminal” “endpoint” (’796 Patent, Claims 15, 16, 22, 25, 35, 38)	“data network device that is a source of data or that is a destination for data”
“first endpoint” “second endpoint” (’796 Patent, Claims 15, 16)	Plain meaning (apart from the Court’s construction of “endpoint”)
“source terminal” (’796 Patent, Claims 25, 28, 38)	“data network device that is a source of data”
“destination terminal” (’796 Patent, Claims 25, 38)	“data network device that is a destination for data”

L. “predetermined QoS”

Defendant submits that “[t]he parties have reached agreement to construe ‘predetermined QoS’ [in Claims 1 and 25 of the ’796 Patent] with its plain and ordinary meaning.” Dkt. No. 137 at 4. This agreement is set forth in Appendix A to the present Claim Construction Order.

M. “domain”

“domain” (’796 Patent, Claims 15, 19, 22–27, 31, 35, 38)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
Plain and Ordinary meaning Alternatively: “routing domain”	Routing domain, which is “a logic[al] part of an IP network and the division is done for administrative reasons”

Dkt. No. 132 at 25; Dkt. No. 137 at 10; Dkt. No. 138 at 5; Dkt. No. 140 at 4.

Shortly before the start of the May 7, 2024 hearing, the Court provided the parties with the following preliminary construction: “routing domain.”

(1) The Parties’ Positions

Plaintiff argues that Defendant’s proposal is “an attempt to impermissibly limit the claims to a preferred embodiment.” Dkt. No. 132 at 25.

Defendant responds that “[t]he patentees here, acting as their own lexicographers, defined this term in the specification.” Dkt. No. 137 at 10 (discussing ’796 Patent at 4:42–46).

Plaintiff replies that “NetSocket is not opposed to construing ‘domain’ as a ‘routing domain,’” and “[t]hus, the sole remaining dispute is whether it is proper to import a requirement that a routing domain is created ‘for administrative reasons’ into the claim.” Dkt. No. 138 at 5. Plaintiff argues that “the patentee did not use the words ‘in the present invention’ with respect to that concept and therefore did not intend to act as a lexicographer when discussing an unknown network operator’s ‘administrative reason’ for creating divisions.” *Id.* (citations omitted).

(2) Analysis

Defendant argues that the specification defines “domain.” As a general matter, “the specification may reveal a special definition given to a claim term by the patentee that differs from

the meaning it would otherwise possess, [and] [i]n such cases, the inventor’s lexicography governs.” *See Phillips*, 415 F.3d at 1316.

Here, the specification of the ’796 Patent discloses:

A domain is a logic part of an IP network and the division is done for administrative reasons. A domain is in the present invention referring to a routing domain.

’796 Patent at 4:42–46.

In the context of being immediately followed by a statement of what “domain” is “referring to” “in the present invention,” the first statement of what “[a] domain is” is descriptive rather than definitional, particularly when considering that the first statement includes a statement of purpose (“done for administrative reasons”). The Court therefore rejects Defendant’s proposed construction and instead adopts the remaining agreement that the term “domain” refers to a “routing domain.”

The Court accordingly hereby construes **“domain”** to mean **“routing domain.”**

N. Method-Apparatus

<p>“A computer program product stored on a computer usable medium, comprising readable program for causing a processing means in an IP network, to control the execution of the steps of claim 25” (’796 Patent, Claim 41)</p>	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
Plain and Ordinary meaning (Not Mixed Type Claim)	Indefinite (Mixed-Type Claim)

<p align="center">“A computer program product stored on a computer usable medium, comprising readable program for causing a computer, within a router or a server in the data network to control an execution of the steps of claim 1” (’966 Patent, Claim 17)</p>	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
Plain and Ordinary Meaning (not indefinite)	Indefinite (Mixed-Type Claim)

Dkt. No. 132 at 25–26; Dkt. No. 137 at 26; Dkt. No. 140 at 4 & 10.

Shortly before the start of the May 7, 2024 hearing, the Court provided the parties with the following preliminary constructions:

<u>Claim</u>	<u>Preliminary Construction</u>
’796 Patent, Claim 41	<p>41. A computer program product stored on a computer usable medium, comprising readable program for causing a processing means in an IP network, to control the execution of the following steps:</p> <p> a first Network Resource Manager (NRM), located within said source domain, requesting from a second NRM, located within said destination domain, a resource required for fulfilling said QoS, said resource being intended for transmission of IP packets, one or more intermediate domains being interposed between the source domain and the destination domain;</p> <p> the second NRM announcing a domain property label of the destination domain to the first NRM, said domain property label characterizing said destination domain;</p> <p> the first NRM and the second NRM performing one of several actions for transmitting said IP packets with said QoS between the source terminal and the destination terminal according to the announced domain property label, at least one of the several actions causing the first NRM to perform additional communications with the second NRM to reserve resources in said destination domain; and</p> <p> using an NRM path vector to identify NRMs along a path from the source terminal to an end-terminal.</p>

'966 Patent, Claim 17	<p>17. A computer program product stored on a computer usable medium, comprising readable program for causing a computer, within a router or a server in the data network to control an execution of the following steps:</p> <p>controlling resources of the first network level by a first group of Network Resource Managers (NRMs);</p> <p>controlling resources of the second network level by a second group of NRMs, wherein the first group and the second group of NRMs comprise means for communicating on a common network level;</p> <p>exchanging resource requests between the NRMs of the first and second groups using the first addressing scheme, the NRMs of the first group and the second group admitting new resource requests based at least in part on a total amount of available resources, an amount of resources currently reserved by previous reservations, and an amount of resources requested in the new resource requests; and</p> <p>performing an address mapping between the first and second addressing schemes so that a set of resources that is used by a reservation in the second group, controlled and known by the second group, is aggregated into a single resource in the first group of NRMs.</p>
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(1) The Parties' Positions

Plaintiff argues that “the claims at issue here do not mix the requirements for system structure with method steps to be performed by a user” but rather “focus[] exclusively on the structural and functional capabilities of the computer program.” Dkt. No. 132 at 27; *see id.* at 27–28.

Defendant responds that “[t]here can be no question as to whether these claims improperly claim both an apparatus and method of using the apparatus within a single claim as the claims are *dependent* apparatus claims that depend from independent method claims.” Dkt. No. 137 at 26. Defendant also argues that “[b]y their very structure, they require both the performance of a method involving various systems (e.g., NRMs and terminals) and a *single* apparatus for performing that method,” and “[i]t is unclear whether infringement occurs when one creates ‘a computer program product’ or when a separate system (e.g., NRM or terminal) performs a claimed function.” *Id.* at 26 & 27.

Plaintiff replies that “there is no blanket rule that any mention of system capabilities alongside method steps renders a claim indefinite,” and “the functional language merely describes the capabilities of the computer.” Dkt. No. 138 at 10.

(2) Analysis

A single patent may include claims directed to one or more of the classes of patentable subject matter, but no single claim may cover more than one subject matter class. *IPXL Holdings[, LLC v. Amazon.com, Inc.]*, 430 F.3d [1377,] 1384 [(Fed. Cir. 2005)] (holding indefinite a claim covering both an apparatus and a method of using that apparatus).

Microprocessor Enhancement Corp. v. Tex. Instruments Inc., 520 F.3d 1367, 1374 (Fed. Cir. 2008); *see H-W Tech, L.C. v. Overstock.com, Inc.*, 758 F.3d 1329, 1335 (Fed. Cir. 2014) (finding claim indefinite because “it is unclear when infringement occurs”).

Here, Claim 41 of the ’796 Patent recites (emphasis added):

41. *A computer program product stored on a computer usable medium*, comprising readable program for causing a processing means in an IP network, to control the execution of *the steps of claim 25*.

Claim 25, from which Claim 41 depends, recites:

25. A *method* for reserving resources within an IP network to obtain a predetermined QoS between a source terminal within a source domain and a destination terminal within a destination domain, the method comprising the steps of:

a first Network Resource Manager (NRM), located within said source domain, *requesting* . . .
the second NRM *announcing* . . .
the first NRM and the second NRM *performing* . . .; and
using an NRM path vector.

Claim 41 thus purports to incorporate only a portion of Claim 25, namely “the steps of claim 25,” rather than the entirety of Claim 25. Based on this, Plaintiff argued at the May 7, 2024 hearing that Claim 41 is in the form of an independent claim.

The parties cite no authority regarding whether a claim that purports to incorporate only a portion of another claim should be characterized as an independent claim or as a dependent claim, and the Court finds no such authority.

Defendant demonstrates that the patentee prosecuted Claim 41 of the '796 Patent as a dependent claim. Defendant shows this based on the claim language itself, the prosecution fees that the patentee paid (*see* Dkt. No. 137, Ex. F, Patent Application Fee Determination Record), and statements by the patentee during prosecution referring to this claim as a dependent claim that “depend[s] from and further limit[s]” an independent claim (this prosecution history does not appear to be in the record, but at the May 7, 2024 hearing Defendant presented these statements as being from the publicly available prosecution history, and at the hearing Plaintiff did not dispute the authenticity of these statements).

Title 35 U.S.C. § 112, ¶ 4, provides (emphasis added):

Subject to [paragraph 5 regarding multiple dependent form], a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form *shall be construed* to incorporate by reference *all* the limitations of the claim to which it refers.

Because Claim 41 is a dependent claim (as discussed above), 35 U.S.C. § 112, ¶ 4 requires construing Claim 41 as including all of the limitations of Claim 25. No party has questioned whether the preamble of Claim 25 is limiting, so the Court assumes that it is, at least insofar as Claim 25 recites “[a] method.” Therefore, pursuant to 35 U.S.C. § 112, ¶ 4, Claim 41 includes the limitation of “[a] method.”

Thus, although “apparatus claims are not necessarily indefinite for using functional language,” *Microprocessor Enhancement*, 520 F.3d at 1375, in the present case there is a direct conflict. Claim 41 of the '796 Patent does not “merely use permissible functional language to

describe the capabilities of the claimed system” such that “it is clear that infringement occurs when one makes, uses, offers to sell, or sells the claimed system.” *Mastermine Software, Inc. v. Microsoft Corp.*, 874 F.3d 1307, 1316 (Fed. Cir. 2017). Rather, in light of above-reproduced 35 U.S.C. § 112, ¶ 4, Claim 41 of the ’796 Patent contains a direct conflict between whether Claim 41 is infringed by performing “method” steps or instead is infringed by making, using, selling, or offering for sale a “computer program product stored on a computer usable medium.”

The same inconsistency is present in Claim 17 of the ’966 Patent, which recites “[a] computer program product stored on a computer usable medium” and which depends from Claim 1, which recites “[a] method . . . comprising the steps of: controlling . . .; controlling . . .; exchanging . . .; and performing . . .” Claim 17 of the ’966 Patent is a dependent claim for the same reasons discussed above as to Claim 41 of the ’796 Patent, such as that the patentee stated during prosecution that Claim 17 of the ’966 Patent “depend[s] from and add[s] further limitations to” an independent claim (this prosecution history does not appear to be in the record, but at the May 7, 2024 hearing Defendant presented these statements as being from the publicly available prosecution history, and at the hearing Plaintiff did not dispute the authenticity of these statements). *See also* Dkt. No. 137, Ex. F, Patent Application Fee Determination Record.

Plaintiff’s argument that “[t]he claim terms do not predicate the method’s execution on unspecified user actions, thereby maintaining clarity and definiteness regarding what the system is designed to do” (Dkt. No. 132 at 27), is unavailing in light of these direct conflicts within the claims at issue. The additional authorities cited by Plaintiff are similarly unpersuasive. *See UltimatePointer, L.L.C. v. Nintendo Co.*, 816 F.3d 816, 827 (Fed. Cir. 2016); *HTC Corp. v. IPCom GmbH & Co., KG*, 667 F.3d 1270 (Fed. Cir. 2012)).

The Court therefore finds that **Claim 41 of the '796 Patent and Claim 17 of the '966 Patent are indefinite.**

V. CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patent-in-suit. The parties are ordered that they may not refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

SIGNED this 29th day of May, 2024.



ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE

APPENDIX A

<u>Term</u>	<u>Parties' Agreement</u>
<p>“Method in a packet based communication network including network domains, wherein at least one domain is a Multiprotocol Label Switching MPLS domain, to establish a virtual leased line, VLL, between a source (SRC) and a destination (DST) in different domains in order to achieve packet transfer between the source (SRC) and the destination (DST), wherein the bandwidth broker (BB) is associated to each network domain and the bandwidth broker (BB) is configured to control a hierarchical routing domain”</p> <p>(’698 Patent, Claim 1)</p>	Preamble is limiting.
<p>“at least one intra-domain broker (1DB)”</p> <p>(’698 Patent, Claim 1)</p>	Typographical Error. Specifically, 1DB should be read as IDB.
<p>“en equity”</p> <p>(’698 Patent, Claim 1)</p>	Typographical Error. Specifically, should be read as “an entity”
<p>“predetermined QoS”</p> <p>(’796 Patent, Claims 1, 25)</p>	Plain and Ordinary Meaning (not indefinite)

Dkt. No. 113 at 1–2; Dkt. No. 137 at 4; Dkt. No. 140 at 12–15.